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Recent developments and new challenges in commodity markets and policy options for commodity-based inclusive growth and sustainable development

Note by the UNCTAD secretariat

Executive summary

This background note reviews recent developments in key commodity markets and analyses the factors that contributed to fluctuations in commodity prices in 2014. Imbalances between supply and demand are weighing prices down for most commodities in the agricultural, metals and ores and energy markets. This downward pressure was maintained throughout the year with short-term fluctuations. For some commodities, prices stabilized towards the latter part of the year and even recovered some of their losses. These developments have significant impacts on commodity-dependent developing countries, investors and farmers. The note explores some policy issues relating to the recent developments in global commodity markets and provides recommendations that could help these countries achieve sustainable development and inclusive growth. In particular, policies and actions are suggested with a view to dealing with the potential impacts of falling prices and mitigating exposure to broad price fluctuations. Also discussed are the recent debates on export restriction measures introduced by some commodity-exporting countries.

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Introduction

1. Paragraph 208 of the Accra Accord mandated the Trade and Development Board to establish a multi-year expert meeting on commodities and development. This series of multi-year expert meetings was reaffirmed in paragraph 17 of the Doha Mandate and extended over the four-year period from 2013 to 2016.

2. This background note analyses commodity market developments over the first 10 months of 2014, focusing on price trends and driving forces of price movements. The three main commodity groups covered in this note are as follows:

(a) Agricultural commodities – food, tropical beverages, vegetable oilseeds and oils, and agricultural raw materials;

(b) Minerals, ores and metals;

(c) Energy – oil, gas, coal and renewable energy.

3. The note also highlights some key policy issues linked with recent market developments and provides recommendations that could assist commodity-dependent developing countries in achieving sustainable development and inclusive growth. In particular, it suggests policies and actions aimed at dealing with the potential impacts of falling prices and mitigating exposure to broad price fluctuations. Also discussed are the recent debates on export restriction measures introduced by some commodity-exporting countries.

I. Recent developments in commodity markets

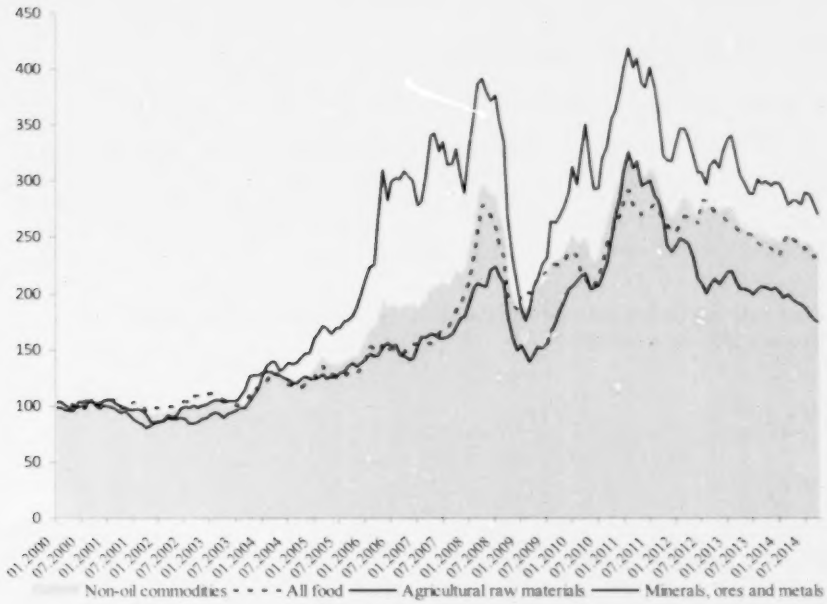
A. Overview

4. Commodity markets continued to weaken for most of 2014 largely due to lacklustre economic conditions and oversupply. Even when prices strengthened as in non-oil commodity markets during the first quarter, they eased in the second and third quarters (figure 1). For example, the non-oil nominal commodity price index of UNCTAD[1] increased from 245 points in January to 252 points in March and dropped to 235 points in October. On average, the index value for the period from January–October 2014 fell by about 6 per cent compared with the equivalent period in 2013, but still remains high relative to its long-term trend.[2]

[1] The index covers the following subgroups of commodities: food, which refers to food, tropical beverages, vegetable oilseeds and oils; agricultural raw materials; and minerals, ores and metals.

[2] The index averaged 245 points between January and October 2014. Its 10-year average, from November 2004 to October 2014, is 232 points.

Figure 1
Price indices of selected commodity groups, January 2000–October 2014
(2000=100)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

5. With the exception of tropical beverages, price trends of the main food and agricultural commodity groups either registered a decline or maintained some stability in 2014, compared with 2013. Commodities that experienced price declines include grains, oilseeds and oils, natural rubber and cotton. The fall in prices was helped by good crop conditions, combined with comfortable stocks carried over from the previous season. If this situation persists, prices of most food and agricultural commodities will continue to decline during the first quarter of 2015.

6. The market for minerals, ores and metals was bearish in 2014. Largely due to the drag of iron ore and copper prices, the minerals, ores and metals price index of UNCTAD fell by 9 per cent from January to October 2014. Rising supply and concerns over Chinese demand prospects largely contributed to the price decline of iron ore and copper. Gold prices decreased by 8.5 per cent between March and October 2014, driven by lower demand, appreciation of the dollar and an expected rise in interest rates in the United States of America. Despite this overall subdued market situation, nickel, zinc and aluminium outperformed other major base metals, mainly due to supply-side factors such as the export ban of unprocessed nickel ores by Indonesia and production cuts by major aluminium producers.

7. Fossil fuel markets experienced a downward slide in price with short-term volatility. The downward pressure was driven by excess supplies, high inventories and the slowing of the global economy. In the United States, the fracking technique used in the production of shale gas and oil helped boost supplies by almost 3 million barrels to an estimated average of 9 million barrels per day (bpd) in 2014; gas wells are producing up to five times more gas than previously. Coal supply was abundant but challenges in meeting greenhouse gas

emissions have stymied its growth in electricity generation. Overall abundant energy supplies and the slump in prices present new challenges for renewable energies at a time when they had started to be price competitive and increasing their market share in the global energy mix.

B. Developments in key commodity sectors

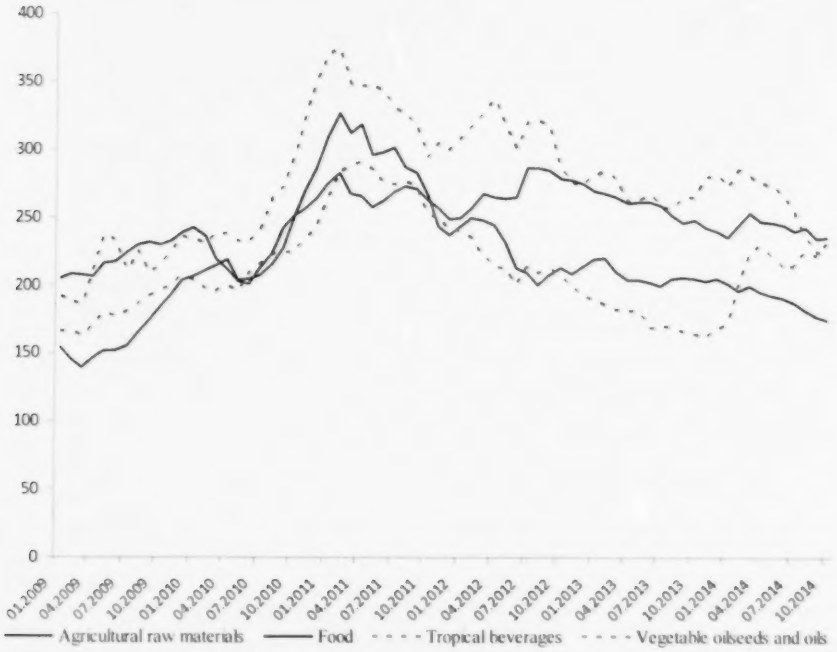
1. Food and agricultural commodities

8. Prices of food and agricultural commodities strengthened in early 2014, largely due to poor weather conditions in the main agrifood-producing countries such as the United States and Brazil, and tension between Ukraine and the Russian Federation, two big suppliers of grains. Thereafter, improved weather conditions helped boost global output of agricultural commodities, resulting in falling prices (figure 2).

Figure 2

Price indices in dollars of selected food and agricultural commodity groups, January 2009–October 2014

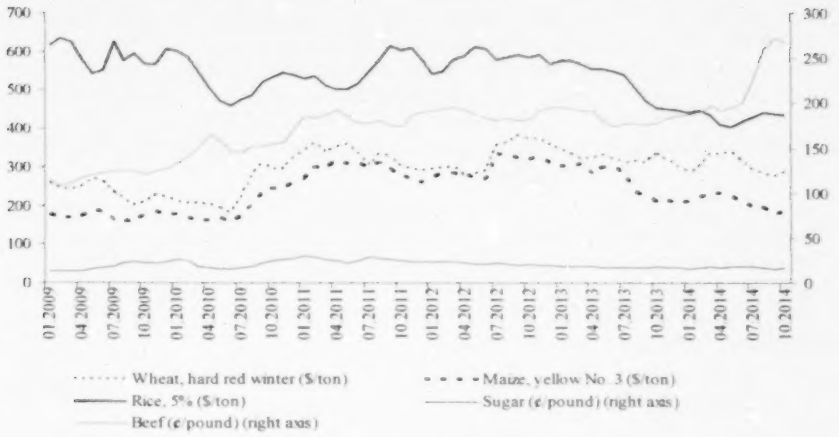
(2000 =100)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

9. The UNCTAD food price index rose from roughly 235 points in January 2014 to 252 points in March and fell back to 235 points in October. The price performance of some individual commodities, however, diverged from the path taken by the index (figure 3).

Figure 3
Nominal prices of selected food and agricultural commodities, January 2009–October 2014
(Dollars)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

10. In grain markets, prices trended upwards in early 2014, owing to adverse weather conditions in main producing countries such as the United States, and tension in the Black Sea region. Thereafter, better weather conditions helped boost crops and put downward pressure on grain prices. For example, the price of wheat (hard red winter No. 2) increased by 18 per cent from $287 per ton in January 2014 to $340 per ton in May and, then decreased by 19 per cent to $274 per ton in September. Although the price slightly increased by 4 cent to $286 per ton in October 2014, record production for 2013/2014 and good prospects for the coming season are expected to help build wheat stocks and keep prices relatively low. The International Grain Council (IGC) estimated that wheat production for the 2013/2014 season would reach a record 713 million tons, 9 per cent higher than the previous season. The momentum should continue for the following season where record or near-record production is forecast.[3] Similarly, in maize markets, the price of yellow maize No. 3 increased by 10 per cent from $210 per ton in January 2014 to $231 per ton in April 2014. It dropped by nearly 21 per cent to reach $183 per ton in October 2014. According to IGC, maize production in 2013/2014 was estimated to reach a record 984 million tons, 14 per cent higher than the previous season.

11. In rice markets, the price per ton of the Asian benchmark, Thai rice, fluctuated between $404 and $447 from January to October 2014. The monthly average price rose slightly from $441 per ton in January to $447 in February and steadily dropped to $404 per ton in May 2014. This price fall was attributed in part to high stock levels carried over from previous seasons and the gradual release of Thai Government stockpiles. Thereafter, adverse weather conditions in Thailand, coupled with the rice farmers' decision to curb planting following the end of the government subsidy programme, contributed to the

[3] The figures are taken from the IGC website as of 27 November 2014.

upward pressure on rice prices. By October 2014, the average price of Thai rice had risen to $433 per ton, but prices remain low compared with the average of the last five years.

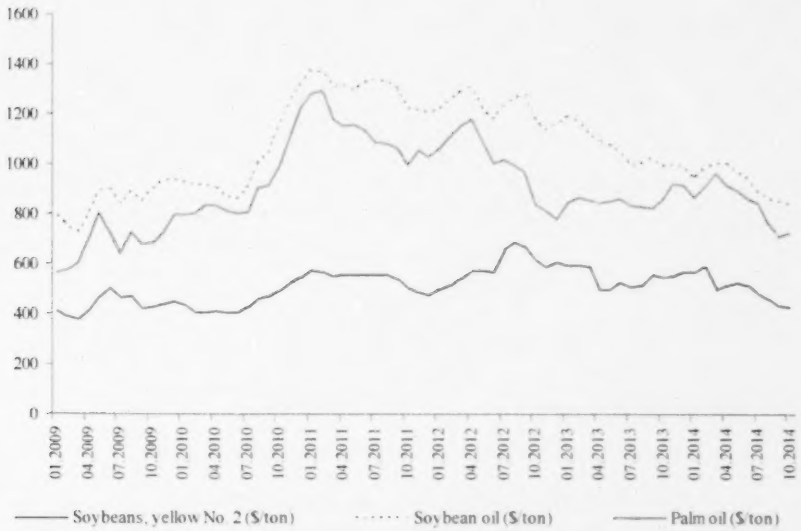
12. The price of sugar increased by 17 per cent from 15.6 cents per pound in January to reach 18 cents per pound in May 2014, reflecting concerns over adverse weather in Brazil, a big sugar producer, and the developing El Niño weather pattern. Prices eased subsequently, in part due to the delayed El Niño phenomenon and large domestic inventories in major producing countries such as India and Thailand. In September 2014, sugar prices averaged 16 cents per pound. However, in October, prices recovered moderately, averaging 16.75 cents per pound. On average, sugar prices in the first 10 months of 2014 were relatively low compared with the previous three years. This has discouraged planting, and analysts are now expecting a global deficit for 2014/2015, which may help sugar prices recover slightly.

13. In contrast to almost all food and agricultural commodity markets, beef prices strengthened over the first 10 months of 2014, albeit with some short-term fluctuations. In October 2014, the price for Australian and New Zealand frozen beef averaged roughly 267 cents per pound, 42 per cent higher than in January 2014. The price increase was mainly due to tight supply induced by drought and high feed costs in the United States that weighed on global red meat production.

14. In the vegetable oilseeds and oils market, prices generally eased in 2014, despite some short-term swings (figure 4). The vegetable oilseeds and oils price index of UNCTAD declined by 17 per cent, from 271 points in January to 225 points in October. This was in large part driven by a drop in prices for soybeans, soybean oil and palm oil, which decreased by 25 per cent, 11 per cent and 16 per cent, respectively, over the same period, owing in large part to good crop conditions that boosted production.[4] The situation is likely to be exacerbated by the slump in crude oil prices that would weaken interest for biofuel production, which uses vegetable oils as inputs. Further drops in the prices of oils, such as palm oil, may severely affect small farmers, who are the biggest suppliers in major exporting countries.

[4] For example, according to the IGC update in November 2014, soybeans production is estimated to reach a record 284 million tons for the 2013/2014 crop season, up from 272 million tons during the previous one.

Figure 4
Nominal prices of selected vegetable oilseeds and oils, January 2009–October 2014
(Dollars)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

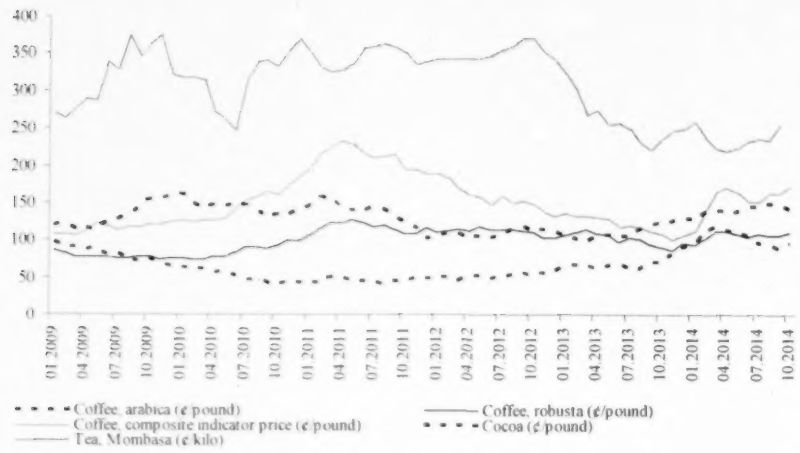
15. Tropical beverages prices followed an upward trend in 2014, led by a surge in coffee and cocoa prices (figure 5). The UNCTAD tropical beverages price index averaged 230.5 points in October, 35 per cent higher than in January. Over the same period, the coffee composite indicator index increased by nearly 56 per cent. This mainly resulted from a surge in prices of arabica grades, driven by market fears following drought that hurt Brazil's coffee-growing regions in early 2014. The price of robusta coffee rose by nearly 18 per cent from 93 cents per pound in January to 109 cents per pound in October. In cocoa markets, prices moved upward over the same period, due in part to increased demand from the chocolate manufacturing industry, although the market was relatively well supplied during the 2013/2014 season.[5] In October 2014, the price of cocoa averaged 141 cents per pound, 10 per cent up from its value in January 2014. Such bullish markets for tropical beverages may have benefited small farmers, the main suppliers, provided they were paid a fair share of the international price. In contrast to the upward trend recorded in coffee and cocoa prices, tea prices followed an uncertain path over the first 10 months of 2014 and remained low compared with 2013. The Mombasa auction tea price averaged 237 cents per kilogram from January to October 2014, 13 per cent less than the equivalent value the year before. Relatively low prices of tea were influenced by ample supplies resulting from good crop conditions in producing countries.

[5] Global demand for cocoa was estimated at 4.262 million tons for 2013/2014, 3.7 per cent higher than the previous season. Meanwhile, its production for 2013/2014 was estimated at 4.345 million tons, 10.2 per cent higher than the previous season (International Cocoa Organization, 2013, *Quarterly Bulletin of Cocoa Statistics*, Vol. XL, No.3, Cocoa year 2013/2014).

Figure 5

Nominal prices of selected beverage commodities, January 2009–October 2014

(Dollars)



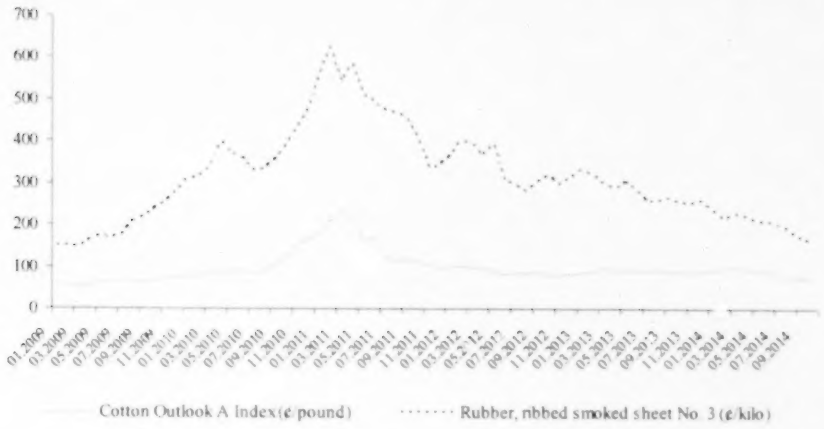
Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

16. In raw agricultural commodity markets, prices trended downwards over the first 10 months of 2014 (figure 6). This was mainly driven by slower economic growth of major industrial economies, coupled with ample stocks. In October 2014, the UNCTAD agricultural raw materials price index was 13 per cent lower than in January. The price of natural rubber (RSS No. 3) fell by 30 per cent over the same period, owing to oversupply. At the time of writing of this report, the International Rubber Study Group estimated that world supplies would exceed demand for a fourth year in 2014, which would be likely to push rubber prices further down. The situation is of great concern to small farmers, who are the main growers of rubber trees in the biggest producing countries, including Thailand and Indonesia. For cotton, the Cotlook A Index increased by 7 per cent from January to March 2014, partly due to concerns over adverse weather conditions that affected yields in the United States. Thereafter, prices fell. In October 2014, the index averaged roughly 70 cents per pound, 23 per cent less than in January 2014. This was largely due to high stocks, increasing global production and a lower import quota to be issued by China in 2015.

Figure 6

Nominal prices of selected cotton and rubber, January 2009–October 2014

(Dollars)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

17. If current crop conditions continue, prices of most agricultural commodities are expected to drop further in 2015. The situation is of great concern to farmers, in particular small farmers in developing and least developed countries whose profit margins have been declining. Nonetheless, weather concerns, especially the El Niño phenomenon, remain the major upside risk factor of food and agricultural commodity markets in the coming months.

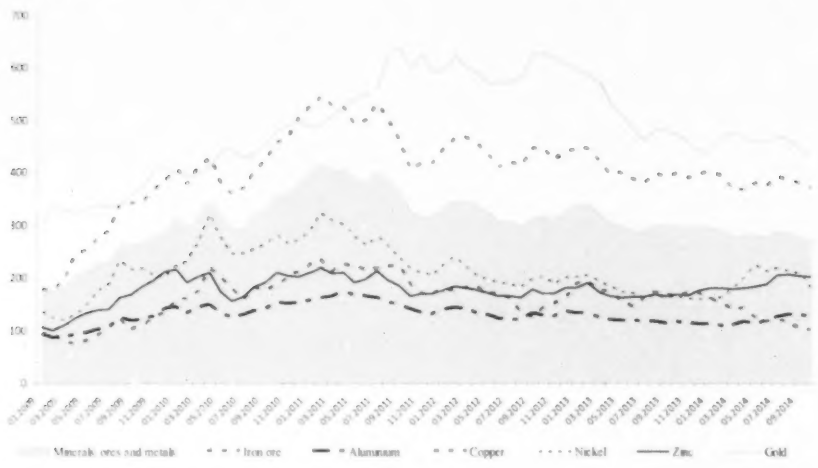
2. Minerals, metals and ore

18. The prices of minerals, ores and metals have trended downwards from their peak in 2011, despite short-term price fluctuations. During the first 10 months of 2014, the minerals, ores and metals price index of UNCTAD averaged 283 points, compared with 308 points during the same period in 2013. However, this general trend disguises the divergent performances of individual minerals, ores and metals. For example, while the iron ore market was bearish, nickel and zinc markets were characterized by a strong price recovery from their 2013 level (figure 7). The aluminium market also reached a turning point following years of chronic oversupply.

Figure 7

Price indices in dollars of selected minerals, ores and metals, January 2009–October 2014

(2000 = 100)



Source: UNCTAD secretariat calculations, based on data from UNCTADStat.

Note: Gold is not included in the minerals, ores and metals price index of UNCTAD.

19. The market for nickel, an ingredient used to make stainless steel, was characterized by oversupply and declining prices in 2013. However, market dynamics changed following the enforcement of an export ban of unprocessed ores in January 2014 by Indonesia, the world's leading nickel mining country. Concerns over supply shortages, coupled with speculative buying by financial investors, led to a surge in nickel prices. In May 2014, the London Metal Exchange (LME) price of nickel rose to a 27-month high of $19,434 per ton, an increase of 38 per cent over January 2014. Though prices trended downwards in the following months due to high stocks, the average price of nickel during the first 10 months of 2014 was still 12 per cent above the price in the same period of 2013.

20. The zinc market rallied in the first 10 months of 2014. The average price of the metal, which is mainly used in the galvanized steel industry, rose by 13 per cent, compared with the January-to-October average in 2013. In August 2014, the LME zinc price surged to a three-year-high of $2,329 per ton. This increase was underpinned by rising demand, partly driven by the growth of automobile production, as well as expected tighter supply and decreasing stocks. At the time of writing, the International Lead and Zinc Study Group indicated that the zinc market would be in deficit in 2014 and 2015, which could sustain the current price levels.

21. The price of aluminium had suffered from oversupply over the years. However a turning point was reached in 2014. After hitting a 55-month low of $1,694 per ton in February 2014, aluminium prices rebounded in the following months. In August 2014, prices rose to $2,030, 20 per cent above the February level. A number of factors contributed to the price hike, including capacity cuts by major aluminium producers; the export ban on bauxite by Indonesia, a major world bauxite producer; and demand recovery, in particular from the United States automobile industry. The significant improvement of market conditions brought the average price of aluminium over the first 10 months of 2014 to $1,842 a ton, only slightly lower than the price during the same period in 2013.

22. The performance of the copper market was lacklustre in the first 10 months of 2014. Prices averaged $6,920 per ton, down from $7,364 in the same period in 2013. In March 2014, the price of LME copper fell to $6,666, the lowest level since July 2010. Rising mining production and concerns over demand prospects from China, the world's top consumer, largely contributed to the price decline. Furthermore, China's first corporate bond default in March 2014 and a probe into possible base metals financing fraud increased market uncertainties about the country's future copper demand tied with lending transactions.[6]

23. The price of iron ore, a raw material for steel making, registered a sharp decline in the first 10 months of 2014. From $128 per dry ton in January to $80 in October 2014, the benchmark iron ore price decreased by 37.5 per cent.[7] The price plunge was mainly due to oversupply by the world's major mining groups and weakening growth in steel production in China, where the subdued property market suppressed the demand for steel. Unless there is a significant production cut by big iron ore miners, the price of iron ore will be under pressure in 2015.

24. Following a dramatic price fall of 27 per cent in 2013, the gold market was subdued in 2014. During the first 10 months of 2014, gold prices averaged $1,282 per troy ounce, 11 per cent less than the same period in 2013. After a brief recovery in the first quarter of 2014, gold prices fell in the second quarter. The lack of strong physical demand and rising gold supply weighed on gold prices.[8] Since August 2014, demand eased as a result of the strengthened United States dollar and the expectation of raising interest rates by the United States Federal Reserve in 2015. In October 2014, gold prices dropped to $1,222 per troy ounce, the lowest level since September 2010. The year 2014 also witnessed the overhaul of the near century-old gold price-setting mechanism, which will be replaced in early 2015 by a more transparent electronic system run by the Intercontinental Exchange (see box).

The overhaul of benchmark price-setting mechanisms in precious metals markets

In November 2014, the London Bullion Market Association (LBMA) announced the selection of the Intercontinental Exchange Benchmark Administration as the third-party administrator of the LBMA gold price. It will provide the price platform, methodology, and overall administration and governance of the LBMA gold price. The new global gold benchmark price will be digitally fixed and auction based. The auction will be in dollars, euros and sterling, with bids and offers published in real time, and the price updated every 30 seconds. This new gold price-setting process will replace the nearly century-old twice-daily gold fix, which since 2004 has been set through a closed teleconference by a small number of member banks. The LBMA gold price mechanism is expected to enter into operation in the first quarter of 2015.

The overhaul of the gold benchmark price-setting process took place in a general context of rising demand for enhancing the transparency and oversight of important price benchmarks in the financial and commodity markets so as to reduce the risk of

[6] According to the *South China Morning Post*, 400,000 tons of base metals, including copper and aluminium, stored at Qingdao port, have been allegedly used as collateral several times to obtain loans at different banks.

[7] The benchmark iron ore price refers to China import iron ore fines 62 per cent Fe spot (cost and freight Tianjin port).

[8] World Gold Council data show that largely due to the dramatic decline of consumer demand for jewellery, and gold bars and coins, gold demand decreased to 963.8 tons in the second quarter of 2014, a 16 per cent decline, compared with the same period in 2013 (World Gold Council, 2014, *Gold Demand Trends*, Second quarter 2014, August).

manipulation. Following the scandal concerning the London interbank offered rate, or LIBOR, and the investigation into foreign exchange market abuse, regulators increased the scrutiny of the precious metals markets. The current gold price fix was criticized for its lack of transparency, as the banks determining it did not publish any of the data that were used to decide on the benchmark.

The reform of the gold price-setting mechanism came after similar moves in the silver, palladium and platinum markets. In August 2014 the Chicago Mercantile Exchange and Thomson Reuters launched the new LBMA silver price mechanism to replace the 117-year old London silver fix. LME took over the administration of the benchmarks for palladium and platinum, and in December 2014 launched LMEbullion, an electronic solution to provide reference prices for the platinum and palladium markets.

Despite some concerns about the rising costs associated with tighter regulation of physical commodity benchmarks, it is generally expected that the overhaul of benchmark price-setting mechanisms in the precious metals market will enhance market transparency and efficiency, and prevent market manipulation.

Source: *Financial Times*, several issues; Thomson Reuters, 2014, LBMA silver price launches new era in pricing precious metals, 15 August; LME, 2014, LME announces successful launch of LBMA platinum and palladium prices, 4 December.

3. Energy

25. Global primary energy consumption increased by 1.8 per cent in 2012 and 2.3 per cent in 2013.[9] In 2014, demand growth is expected to slow down, reflecting the weakening of the global economy.[10] Among the different primary energies, fossil fuels are the most popular energy in terms of consumption. They represent over 80 per cent of total primary energy supplies, with oil accounting for 32.8 per cent; gas, 23.7 per cent; and coal, 30 per cent.[11] However, there has recently been a gradual shift towards low carbon alternatives such as renewable energies because of carbon dioxide emissions and their effect on climate change. According to IEA forecasts, unless the recent dramatic decline in the price of oil persists, renewable energies could provide 25 per cent of energy supplies by 2040 and nearly half of the global increase in power generation and overtake coal as the leading source of electricity. Most of the global demand growth for energy up to 2040 is expected to come from emerging economies.[12]

Crude oil

26. During the first half of 2014, the two major international benchmarks for crude oil purchases, Brent and West Texas Intermediate crude, fluctuated between $100 and $110. However from the end of June until the end of December, prices fell by over 40 per cent, reaching about $57 for Brent and $53 for West Texas Intermediate (figure 8). The plunge in prices was driven in large part by two major factors: weakening global oil demand and excess supplies on the market. These market fundamentals will not change suddenly; oil prices are therefore expected to continue their decline, at least in the first quarter of 2015.

[9] British Petroleum, 2013, *BP Statistical Review of World Energy 2013* (London, BP Public Limited Company), http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical_review_of_world_energy_2013.pdf.

[10] International Energy Agency (IEA), 2014, *World Energy Outlook 2014* (Paris, IEA).

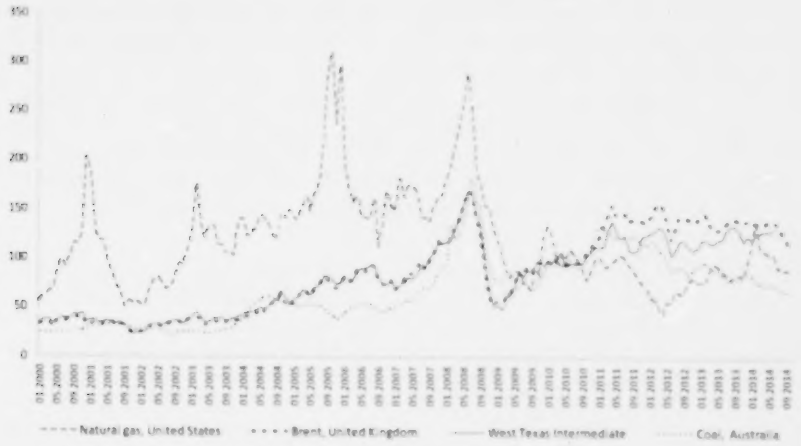
[11] British Petroleum, op. cit.

[12] Ibid.

Figure 8

Price indices in dollars of crude oil (Brent), West Texas Intermediate natural gas (Henry Hub) and coal (Australia), January 2000–October 2014

(2010 = 100)



Source: International Monetary Fund, International Financial Statistics.

27. According to IEA, global oil demand in 2014 is expected to grow by about 0.68 million bpd to 92.4 million bpd, far less than the global supplies of 94.2 million bpd estimated for the end of year.[13] Several reasons have been cited for slowing demand growth in crude oil. First is a shift in consumer behaviour resulting from the gloomy growth prospects of the world economy. Second, demand emanating from China, the leading source of incremental oil demand in recent years, has slowed more rapidly than expected, in part due to a cooling economy but also because businesses are less energy intensive. Third, sluggish growth in Europe and improving energy efficiency among individuals and businesses have contributed to slackening demand. Lastly, the strengthening dollar has also contributed to cooling demand in countries with weaker currencies, as purchasing oil priced in dollars becomes more expensive.

28. The excess crude oil supplies on the market can be attributed to a variety of factors related to production. First, the Organization of Petroleum Exporting Countries (OPEC), at its 166th conference in November 2014, declined to revise its production ceiling, despite falling demand. The expectation was that it would follow its traditional policy of making deep cuts in production to reduce supply. The apparent OPEC policy change echoed by the Saudi Arabian oil minister implies that the group is not going to reduce its production, which will contribute to keeping the market oversupplied. Second, production is increasing in North America. At the time of writing this report, United States production was expected to increase from 10.24 million bpd in 2013 to 11.68 million bpd in 2014 and 12.63 million bpd in 2015.[14] Most of the production increase is a result of advances in the techniques of horizontal drilling and hydraulic fracturing in shale fields to unlock oil and gas trapped in rock formations. Moreover, production of ultra-light crude or condensates in Canada,

[13] IEA, 2014, Oil Market Report, November (accessed 4 November 2014).

[14] See http://www.reuters.com/article/2014/08/12/us-eia-oil-outlook-idUSKBN0GC1QE20140812 (accessed 4 November 2014).

normally used in diluting heavier crude (derived from oil sands) for transportation through pipelines, is expected to rise by 13 per cent in 2014.[15] Third, output from Brazil's deep-water offshore Santos Basin is estimated to add 206,000 bpd to current production in 2014 and 325,000 bpd in 2015; and production in the Gulf of Mexico is expected to increase by 155,000 bpd in 2015.[16] Lastly, production in the Russian Federation has reached near-record levels of 10.61 million bpd, mostly coming from ramped-up production at Rosneft and smaller producers, such as Bashneft, whose month-on-month production has increased by 1.5 per cent.[17]

29. Overall, supply forecasts for non-OPEC countries is expected to rise from 54.63 million bpd in 2013 to 56.4 million bpd in 2014 and by the end of 2015, to 57.68 million bpd,[18] reflecting growing production in the United States, Brazil, Canada and the Russian Federation. Compared with output in October 2013, global supply increased by 2.7 million barrels to 94.2 million bpd, while demand remains just above 92 million bpd, thus keeping the market well oversupplied.[19]

30. The falling oil price has discouraged investment in the sector. Lukoil, the Russian Federation's second-biggest oil producer, has cautioned that the country would stand to lose 25 million to 70 million tons in production by 2017 due to underinvestment and less wells being drilled.[20] Western oil companies are also set to cut back on some less profitable production in technologically challenging deep offshore fields due to high costs. According to *Financial Times* estimates, the current decline in prices could cut projected investments by close to $1 trillion (this is not inclusive of shale investments) and deprive the world of 7.5 million bpd over the coming decade.[21] The shale oil revolution is currently boosting supplies in the United States but is expected to start falling after 2020. IEA estimates that about $900 billion of investments per year will be needed in upstream oil and gas development by the 2030s to meet a projected demand of 104 million bpd in 2040, up just 15 per cent from today.[22]

Natural gas

31. Natural gas prices vary considerably among the different pricing regions of the world, for example, the Henry Hub (United States), the National Balancing Point (NBP) of the United Kingdom of Great Britain and Northern Ireland[23] and Japan LNG, cost,

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[15] Financial Post, 2014. Canada's surprise light oil boom delights oil sands producers seeking diluent, 6June. Available at http://business.financialpost.com/2014/06/06/canadas-surprise-light-oil-boom-delights-oil-sands-producers-seeking-diluent/(accessed 5 December 2014).

[16] Finance, 2014, Goldman slashes 2015 oil price, as output tops demand, 27 October. Available at http://finance.yahoo.com/news/goldman-cuts-brent-forecast-15-2015-034255193--sector.html (accessed 4 November 2014).

[17] Reuters, 2014, Update 1 – Russia keeps oil output near high despite sanctions, low prices, 2 November. Available at http://www.reuters.com/article/2014/11/02/russia-oil-output-idUSL6N0SS06A20141102 (accessed 4 November 2014).

[18] IEA, 2014, Oil Market Report, October. Available at https://www.iea.org/oilmarketreport/omrpublic/(accessed 4 November 2014).

[19] Ibid.

[20] See http://www.reuters.com/article/2014/11/02/russia-oil-output-idUSL6N0SS06A20141102, accessed 10 November 2014.

[21] See http://www.ft.com/cms/s/0/b3d67518-845f-11e4-bac9-00144feabdc0.html#axzz3MdysJClS, accessed 19 December 2014.

[22] *World Energy Outlook*, IEA, October 2014.

[23] The NBP gas market gets its supplies from various sources, including production in the United Kingdom, piped imports from Norway and Continental Europe, storage, and liquefied natural gas (LNG) tanker supplies from global markets. Market participants engaged in buying and selling

insurance, freight. The Henry Hub natural gas spot price per million British thermal unit (Btu) fluctuated within a narrow band of $3.33 and $4.04 for most of 2013. They began rising in December and peaked in February 2014, as cold weather helped push prices to $6 per million Btu. It declined steadily to $3.78 per million Btu in October 2014.[24] The factors that have contributed to the steady decline include the excess supplies caused by the growing domestic production from shale and low demand due to subsequent mild weather across the United States in 2014. An unexpected cold snap gave prices a boost in November 2014 but the price level has since dropped again and is expected to remain low, due to above-normal temperatures forecast across the United States and strong supplies. The latter winter months may bring low temperatures, but ample supplies combined with high levels of storage are likely to avert sudden weather-driven price spikes.

32. Prices on the NBP gas market, the spot-traded natural gas market that is used to benchmark gas prices in the United Kingdom and Continental Europe, fell during the first half of 2014 from 65.11 pence per therm[25] to just above 45 pence per therm in May. A milder-than-anticipated (2013/2014) winter season and falling commercial consumption of natural gas in electricity generation contributed significantly to the decline of gas prices in this spot-traded market. The downward pressure on prices was also driven by ample supplies, high storage levels, increased power output from wind, solar and biomass, which dampened demand for natural gas and kept the market comfortably supplied. However, since early July 2014, NBP gas prices have rallied by more than 8 per cent, largely due to concerns about Russian supplies to Europe. However, the rally is expected to stabilize over the winter months at 60 pence per therm because storage facilities are filled to almost 90 per cent capacity, holding 74 billion cubic meters, equivalent to over 15 per cent of Europe's annual demand.[26] Reserves are about 16 billion cubic meters higher than they were around the same time in 2013. This will help offset the effect of potential shortfalls in supply that would drive prices up.

33. In the Asia-Pacific region, natural gas prices are linked to oil-indexed contracts, which make prices largely dependent on oil market factors. Trade is usually conducted by LNG shipments, with Japan accounting for about three quarters of imports from East Asia and a third of world LNG imports. In 2014, LNG prices fell by over 43 per cent, from $20 per million Btu in February to $11.30 per million Btu in September,[27] in part due to falling oil prices, weak growth of demand for gas-generated power in Japan, as well as a mild winter in the region and oversupply in the market. Exxon Mobil's Papua New Guinea LNG project started ahead of schedule, putting volumes on the spot market before its long-term exports contracts become operational.[28] Other factors that contributed to the fall in price include improving energy efficiency, rising competing fuels such as renewables, robust growth of coal in power plants, slowed-down consumption of natural gas due in part to low population growth and a possible return to nuclear energy, which is having an impact on long-term contracts between exporters and importers that characterize LNG

transactions include oil and gas producers, LNG suppliers, utility companies, power generators, industrial users and financial traders.

[24] See http://www.eia.gov/dnav/ng/hist/rngwhhdm.htm (accessed 17 November 2014).

[25] See http://www.platts.com/news-feature/2014/naturalgas/europe-summer-outlook/index/(accessed 17 November 2014).

[26] See http://www.reuters.com/article/2014/09/09/us-ukraine-crisis-gas-europe-idUSKBN0H41ER20140909 (accessed 25 November 2014).

[27] See http://www.reuters.com/article/2014/11/12/lng-japan-spot-idUSL3N0T210P20141112 (accessed 25 November 2014).

[28] See http://www.oilsearch.com/Our-Activities/PNG-LNG-Project/PNG-LNG-Project-Overview.html (accessed 30 January 2015).

markets. The falling trend reversed in October due to rising seasonal demand resulting from utilities stockpiling for the approach of winter in the northern hemisphere.

Coal

34. Coal prices have historically been more stable than the price of oil and gas, but over the last decade they have started to exhibit some volatile behaviour. Since January 2011, the price of Australian thermal coal dropped by over 36 per cent from a peak of $141.94 per ton to $90.36 per ton in December 2013. Prices continued to drop in 2014 from $87.44 per ton in January to $68.45 per ton in October, a loss of over 20 per cent. The downward pressure on coal prices has been largely driven by healthy mining output in export countries such as Australia, Indonesia, the United States, Colombia and South Africa. Global production reached a record level of 7.8 billion tons in 2013, an increase of 0.4 per cent from 2012 levels,[29] while consumption lagged behind. Weakening demand was partly due to environmental impacts attributed to coal from both mining and coal use, the decarbonization of economies across most countries and competition from more environmentally friendly sources of energy.

35. The current low prices of coal have put pressure on producers worldwide to cut production and costs. Some mining companies have reacted by curtailing production. One of the Russian Federation's biggest coal producers, Kuzbassrazrezugol, plans to cut exports by 2.3 million tons in 2015 because of weak demand. Glencore, the largest producer of seaborne thermal coal, also plans to shut down its Australian coal operations for three weeks starting in mid-December, which will reduce its output by an estimated 5 million tons (roughly 6 per cent of Glencore's annual Australian coal output).[30] It is expected that export cuts, combined with the shedding of high-cost capacity and demand growth, will sufficiently prop prices up to attractive levels for new investments to be made.

Renewable energy

36. Renewable energy provided an estimated 17 per cent of final energy consumed globally in 2011 and 19 per cent in 2012. At the end of 2013, consumption was expected to grow again but data was not available at the time of writing. Traditional biomass accounted for almost half of total renewable energy sources consumed in 2012. Other sources gained small increases in their share of total final energy used. For example, modern renewables that provide heat energy increased from 4.1 per cent to 4.2 per cent; hydropower, from 3.7 per cent to 3.8 per cent; and power generated from wind, solar, geothermal and biomass sources, from 1.9 per cent to 2 per cent. The rise in consumption is due in part to the structural decline in the more polluting fossil fuels, falling costs of renewable energy technologies, government incentives and financing innovations. Policy measures introduced to increase the share of renewables in the energy mix in some countries for example, China, which revised its renewable energy law in 2010, also aided the rise in consumption. The number of countries with renewable energy targets increased from 138 to 144 in early 2014, and countries with established renewable energy support policies increased by 11, to 138 countries.[31]

37. The main growth area of renewable energy in 2013 was in electricity generation, including hydroelectricity, where capacity has increased year on year from 1,170 gigawatts

[29] World Coal Association, Coal Facts 2014.

[30] See http://www.ft.com/intl/cms/s/0/07c18366-6c14-11e4-b939-00144feabdc0.html#axzz3KATdvWUR (accessed 25 November 2014).

[31] Renewable Energy Policy Network for the 21st Century, 2014, *Renewables 2014, Global Status Report* (Paris, REN21)

(GW) in 2009 to 1,560 GW in 2013. Hydropower provided the largest cumulative capacity of 1,000 GW in 2013 and the highest additional input since 2012 (40 GW), about 73 per cent of which was installed in China. The contribution from Solar Photovoltaics PV (39 GW) was also dominated by China, whose growth accounted for about a third of global capacity added, followed by Japan and the United States. Wind capacity added in 2013 increased by 35 GW over the previous year to 318 GW. Most of this increase was provided by the European Union and new markets in Latin America. Biomass power generation capacity also rose by 5 GW. In 2013, renewable energy sources accounted for more than 56 per cent of net global power additions.[32]

38. The use of renewables such as liquid and gaseous biofuels in the transport sector grew strongly in 2013. Global production of ethanol increased from 82.6 billion litres to 87.2 billion litres, and that of biodiesel rose from 23.6 billion litres to 26.3 billion litres at the end of 2013. Hydro-treated vegetable oil, also used in the transport sector, increased by 16 per cent to 3 million litres in 2013. Liquid biofuels accounted for about 2.3 per cent of global fuel demand.[33] Gaseous biofuels, for example, biomethane, is gaining more attention as governments explore its use in the transportation sector.

II. Policy issues arising from recent market developments

39. This chapter discusses some key policy issues arising from recent developments in commodity markets and puts forward some policy options that are important in overcoming challenges faced by commodity-dependent developing countries. In particular, policies and actions to address the potential impacts of falling prices and mitigate exposure to broad price fluctuations are suggested. Also discussed are the recent debates on export restriction measures introduced by commodity exporting countries.

A. Supporting small farmers to cope with falling prices in agricultural commodity markets

40. Recent commodity price declines have been eroding farmers' profit margins, in particular small farmers in developing countries. This has prompted some countries to take action. For example, relatively low prices of palm oil in a context of high production cost pushed some big producer countries such as Indonesia and Malaysia in late 2014 to waive levies on their exports in an attempt to curb a build-up of local stocks and push up farmers' revenues. Such decisions may have deprived these countries of major tax revenues in a context where the effectiveness of the policy remains questionable, given current oversupply in global vegetable oil markets. A way forward could be for governments to devise and/or improve policies that allow farmers to reduce their production costs so that they remain competitive in international markets. In particular, farmers need increased access to low-cost productive assets, including seeds and fertilizers, finance and land. This policy, however, must not be achieved at the cost of environmental degradation.

41. Furthermore, it should be kept in mind that not every small farmer would have skills or the ability to benefit from market participation even after required actions have been devised and implemented. For farmers who do not necessarily have the ability to benefit from measures to boost market access, compensatory policies should be considered, for example, in the form of reasonable time-limited subsidies to improve their livelihoods.

[32] Ibid.
[33] Ibid.

Assistance to small farmers should be considered as a way of addressing societal problems, particularly poverty and inequality, which keep large parts of populations at the margin of economic progress.

B. Export restrictions in commodity trade

42. Export restrictions consist of a number of instruments such as export taxes, export bans, export quotas and export-licensing requirements. During the food crisis of 2008, many temporary export restrictions were applied to agricultural commodities by developing countries. A survey carried out by the Organization for Economic Cooperation and Development shows a wide use of long-term export restrictions for industrial raw materials by developing countries between 2009 and 2012.[34] Most recently, the imposing of export bans of unprocessed ores by Indonesia provided another example. Compared with import restrictions, World Trade Organization (WTO) rules on export restrictions are much less stringent, as they are often considered domestic policies. With some exceptions for new members such as China, WTO member countries generally do not have legally binding commitments on export restrictions.

43. The increasing use of export restrictions in commodity trade in recent years, however, has raised debates and in some cases, led to legal action at WTO. For developed countries relying on international trade to access raw materials that are crucial for their industrial production, the export restrictions result in supply uncertainty and price volatility. For small net food-importing countries, export restrictions worsen their food security situation and erode their confidence in international trade, as witnessed during the 2007–2008 food crisis. For many commodity-exporting developing countries, export restrictions are an important policy instrument used to achieve multiple objectives such as improving terms of trade, increasing tax revenues, enhancing food security, promoting the development of downstream industries and protecting the environment.

44. As export restrictions lead to the redistribution of short-term and long-term welfare gains from trade between exporting and importing countries, it is important to enhance international dialogue and collaboration to address this issue. In particular, the legitimate concerns of developing countries should be taken into account, such as the food security concerns of low-income net food-importing countries, and the need for commodity-dependent developing countries to increase local processing of raw materials and upgrade within the supply chain.

C. Policy implications of low energy prices

45. As discussed earlier, excess oil supply and low demand have put downward pressure on energy prices since mid-2014. This decline has immense benefits for oil-importing countries and for the world economy in terms of facilitating short-term economic growth. On the other hand, many exporting countries are experiencing loss of revenue, challenges in budget planning, deterioration in terms of trade and complications in macroeconomic management.

46. Low oil prices are also having a negative impact on oil field development, prompting oil companies to delay or cancel investments in higher-cost oil production, especially developing complex, technically difficult and capital-intensive processes such as

[34] Organization for Economic Cooperation and Development, 2014, *Export Restrictions in Raw Materials Trade: Facts, Fallacies and Better Practices*.

deep-water fields. Big oil companies, such as Shell, Hess, Exxon Mobil and Chevron, have announced cuts to capital expenditure in 2014; some, such as BP, plan to make such cuts in 2015. It is estimated that nearly half of the projects the industry has under development need oil prices greater than $120 to achieve positive cash flow.[35] Furthermore, an uncertain environment of low prices and volatility decreases expenditure on oil and gas research and development. Such new technologies have played a major role in increasing production and reducing costs.

47. Oil companies drilling for oil in shale fields face similar investment challenges in bringing oil to market. Shale oil wells require high investment and have a steep decline rate of 70–90 per cent in its first year. If the price of oil falls further and the low price is sustained, it could have a negative effect on the capacity to raise funding for capital expenditures, with adverse implications for long-term production growth.[36]

48. The outlook for oil is positive. OPEC predicts oil will continue to play a major part in satisfying world energy needs, as the global economy more than doubles in size, population grows and prosperity expands everywhere, despite a strong reduction in energy intensity.[37] Forecasts made by IEA and the United States Energy Information Administration also show global demand growing and non-OPEC supplies starting to ease. Therefore, suspending decisions to invest in building production capacity because of economic costs in developing oil fields could have negative consequences on reasonably priced energy in the future. It may appear paradoxical to invest in an environment of low prices and uncertainty, but an important policy objective would be to increase investments in building more capacity now, despite low prices, to meet future anticipated demand because lead times from exploration to production of crude oil can take up to six years. Shale oil wells require less time, but unlike conventional wells, which can produce relatively stable rates for a long period of time, production declines at a rate of between 60 per cent and 91 per cent over three years. Investing to build more capacity now will ensure access to reasonably priced oil in the future and the avoidance of spikes in prices that will affect the economic dimension of energy security.

49. A number of countries have sought to diversify their energy mix by increasing the share of alternative energy, particularly renewable sources in light of concerns for increasing carbon dioxide emissions and climate change, as well as for energy security reasons. However there is a tendency for low oil prices to increase dependence on oil at the expense of other energy sources. This period of low fossil fuel prices is challenging the viability of switching to or increasing the use of alternatives without policy support from governments. In 2013, many European countries and the United States were confronted with declining policy support for renewables. They faced challenges in electric-grid-related constraints, opposition in some countries from electric utilities concerned about rising competition and continuing high global subsidies for fossil fuels.[38] Additional policies are therefore needed, particularly in driving costs lower, providing innovative financing,

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[35] See http://www.economist.com/news/business/21623694-price-oil-has-been-tumbling-cost-finding-it-has-not-unsustainable-energy (accessed 28 January 2015).

[36] MG Salameh, 2013, Impact of U.S. shale oil revolution on the global oil market, the price of oil and peak oil, International Association for Energy Economics, Third Quarter. Available at http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCEQFjAA&url=http%3A%2F%2Fwww.iaee.org%2Fen%2Fpublications%2Fnewsletterdl.aspx%3Fid%3D202&ei=DRfJVKOpC8a0UdndgcAJ&usg=AFQjCNE6dATkpF2E8WxGQNhy6Lne0Uy8vg&bvm=bv.84607526,d.bGQ (accessed 28 January 2015).

[37] See http://www.opec.org/opec_web/static_files_project/media/downloads/publications/Executive_Summary_WOO2014.pdf (accessed 2 February 2015).

[38] Renewable Energy Policy Network for the 21st Century, op.cit.

overcoming constraints in electricity distribution and ensuring fair competition. Pursuing active strategies for developing renewables will reap rewards, not only in promoting energy diversification, but also in reducing the health and environmental impacts associated with the use of such energy sources.

50. Coal contributes about 30 per cent to global primary energy needs and 40 per cent of the world's electricity. It is the second leading source of primary energy in the world after oil, and the main source for electricity generation. Coal is in abundant supply, affordable and widely distributed around the globe. At current rates of production, proven reserves are expected to last over 113 years. Including coal in the energy mix is attractive for these reasons, but greenhouse gas emissions and climate change make it less desirable than fuels generating lower emissions. More efforts should be made to build more efficient plants, retrofit old plants with carbon capture and storage technology, and decommission the oldest, least efficient ones. Some countries are already revisiting the use of coal for electricity generation in the wake of potential gas shortages during the 2014/2015 winter season.

D. Policy options for price fluctuations

51. A number of policy options can be explored for mitigating exposure to price risk in net exporting economies. During boom years for example, revenue above the government break-even oil price[39] can be channelled into reserves to help smoothen the effect of shocks. Many oil-exporting countries have managed to accumulate reserves during periods of high prices, which are used to smoothen spending during periods when revenue drops.

52. Traditionally, OPEC has maintained the role of balancing supply of world crude oil with demand shifts. This has been achieved to some degree of success by maintaining excess capacity to respond to increased demand and allocating production quotas to its member countries. Although they have not yet found common ground on how to deal with excess supplies on the market, adopting a policy of credible production cuts would help reduce oversupply and downward pressure on prices. However, at the time of writing, this did not seem to be envisaged to tackle the plummeting oil price during the second half of 2014.

53. Among the many options available for mitigating exposure to price risk, the least used in developing countries are market-based instruments. Common hedging instruments range from conventional ones, such as forward contracts, swaps, futures, and options, to complex combinations, such as collars and over-the-counter tools, depending on the end-user strategy employed to shift risk. Commodity producers in developed countries are increasingly relying on hedging programmes to mitigate exposure to price volatility, but the extent of hedging in developing countries is not very widespread, due to limited understanding of how these instruments function, inexperience in using them, obstacles with respect to trading in commodity derivatives (for example, margin calls in futures and premiums in options) and a lack of an institutional framework within which to carry out hedging operations. To overcome these constraints, government agencies responsible for revenue management should be encouraged to undertake adequate training and capacity-building to gain a good understanding of how to use market-based tools for price-risk management. Governments should also provide an enabling environment for trading derivative instruments, for example, by relaxing regulations and policies that may restrict trading of instruments and trading in foreign markets.

[39] The price at which the government budget is balanced.